

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-4 and 7-29 are pending in the present application. Claims 1 and 4 are amended by the present amendment. Claims 7-27 stand withdrawn in response to a prior restriction requirement.

In the outstanding Office Action, Claim 1 was rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,828,986 to Horigome et al. (herein "Horigome") in view of U.S. Patent No. 6,411,331 to Sansom-Wai et al. (herein "Sansom-Wai"); Claim 4 was rejected under 35 U.S.C. § 103(a) as unpatentable over Horigome in view of Sansom-Wai and U.S. Patent No. 5,905,533 to Hidari; Claims 2 and 3 were indicated as allowable if rewritten in independent form; and Claims 28 and 29 were allowed.

Applicant thanks the Examiner for the indication of allowable subject matter.

Applicant respectfully traverses the rejection of Claim 1 under 35 U.S.C. § 103(a) as unpatentable over Horigome in view of Sansom-Wai.

Claim 1 is directed to an image processing circuit that includes, *inter alia*, a selector configured to receive pixel data from an image pickup device and to receive stored pixel data from a main memory. The image processing circuit also includes a real time processing unit connected to an output of the selector and configured to receive the stored pixel data from the main memory. The image processing circuit is also configured to perform a general image processing of the stored pixel data by real time processing to produce processed pixel data, and to output the processed pixel data to the main memory. The main memory is configured to store the processed pixel data in image frame units as the stored pixel data.

In a non-limiting example, Applicant's Figure 1 shows an image processing circuit that includes real time processing unit 23. Real time processing unit 23 is configured to

perform a general image processing of pixel data received from lens 30a, CCD 21, and analog signal processing circuit 22 (e.g., image pickup device). In addition, the real time processing unit 23 is configured to perform a general image processing of stored pixel data from main memory 29. Further, the real time processing unit 23 is configured to store the processed data in memory 29 as the stored pixel data. Thus, the real time processing unit 23, in the present example is configured to select one of the data from the image pickup device or stored pixel data that was previously processed by the real time processing unit and perform a general image processing, for example pixel interpolation, color transformation, or contour correction on that stored data.

Thereby, real time image processing can be conducted several times faster than if the processing were performed by software.¹ Further, the real time processing can be performed on previously processed and stored data or data received from an image pickup device, thereby allowing previously processed stored data to be processed.

Applicant respectfully submits that the combined disclosures of Horigome and Sansom-Wai, taken individually or in combination, do not teach or suggest each feature of Claim 1. In particular, Horigome and Sansom-Wai do not teach or suggest a real time processing unit that performs a general image processing on stored pixel data and stores the processed data in memory as the stored pixel data. Horigome describes an image processing section 73 that may receive image data from a CCD 78 (e.g., image pickup device) perform image processing with image processing circuit 73a and store the processed image data in memory 80. However, the image processing circuit 73a of Horigome is not indicated as being configured to receive any stored image data. Further, Horigome indicates that the image data in memory may be converted by a DA conversion circuit 73c and sent to a personal computer 2 or a viewfinder 54. However, the DA converted image data of

¹ Specification at page 28, line 20, to page 29, line 4.

Horigome is not stored in memory as the stored image data. Even taken as a whole, the image processing section 73 of Horigome does not receive a stored image data from memory, process the stored image data to produce processed pixel data and store the processed pixel data as the stored image data in memory. In addition, Applicant submits that Sansom-Wai also does not teach or suggest that feature.

Thus, Applicant respectfully submits that Horigome and Sansom-Wai do not teach or suggest “a real time processing unit . . . configured to receive said stored pixel data from the main memory, perform a general image processing of the stored pixel data by real time processing to produce processed pixel data, and output said processed pixel data to the main memory, the main memory being configured to store the processed pixel data in image frame units as said stored pixel data” as recited in Claim 1.

Accordingly, Applicant respectfully submits that Claim 1, and claims depending therefrom, patentably define over Horigome and Sansom-Wai.

Further, Applicant respectfully traverses the rejection of Claim 4 under 35 U.S.C. § 103(a) as unpatentable over Horigome in view of Sansom-Wai and Hidari.

Claim 4 depends from Claim 1, which as discussed above is believed to patentably define over Horigome and Sansom-Wai. In addition, Applicant respectfully submits that Hidari also does not teach or suggest the claimed features lacking in the disclosures of Horigome and Sansom-Wai. Accordingly, Applicant respectfully requests the rejection of Claim 4 be withdrawn.

Accordingly, Applicant respectfully submits that independent Claim 1 and claims depending therefrom are allowable.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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